

Foreign Language Teachers' Professional Growth in the AI Era: Challenges, Identity Crisis and Coping Strategies

Nan Chunping^{1,a}, Si Dehua^{1,b}, Dong Yudan^{1,c}

¹Northeast Petroleum University, Qinhuangdao City, China
^a71542312@qq.com, ^b745826285@qq.com, ^c17816524@qq.com

Abstract: AI not only promotes learners' acquisition of foreign languages but also helps teachers enhance their work efficiency and reduce their workload. However, the educational transformation triggered by AI have also brought many challenges to foreign language teaching and caused a crisis of identity among foreign language teachers. By reviewing the application of artificial intelligence in foreign language teaching and research on the identity of foreign language teachers, this paper analyzes the challenges in the professional development of foreign language teachers, their identity crisis and solutions in the AI era, and puts forward corresponding suggestions from three aspects: teachers themselves, schools and teaching administrative departments. This study not only provides theoretical support and practical guidance for the smooth implementation of AI-assisted teaching in the field of foreign language education, but also has enlightening significance for other disciplines in exploring the path of in-depth integration of artificial intelligence and education.

Keywords: Artificial Intelligence; College Foreign Language Teachers; Challenges; Identity Crisis; Professional Development

1. Introduction

In recent years, China has been actively promoting the empowerment of education by AI, developing and upgrading AI - specific education platforms, encouraging teachers and students to learn AI to improve the digital education literacy and skills of the whole population, and to facilitate personalized lifelong learning for all. Domestic technology companies are also competing to develop AI with various characteristics. Universities have also started to develop and promote AI - specific for education. The topic of concern has shifted from "whether AI should be banned" to "how to use AI reasonably and efficiently".^[1] The promotion of policies in China, the rapid development of education - related AI, and the shift of focus all indicate that AI has occupied an important position in the education field. The integration of AI and education is not only an inevitable trend, but also can inject new vitality into educational reform and innovative development.

The integration of AI and education has placed higher demands on teachers' literacy. A series of documents from the Ministry of Education clearly state that teachers should proactively adapt to the changes brought by new technologies such as AI and enhance their digital literacy, as well as improve their abilities in human-machine interaction and collaboration to carry out education and teaching actively and effectively. It is evident that teachers should adapt to the educational reforms brought about by the development of the times, and they need to respond to the requirements of national policies and improve their own literacy.

The educational reforms triggered by AI have posed tremendous challenges to teachers of all disciplines, especially foreign language teachers. This is because, compared with other disciplines, the foreign language discipline may be more vulnerable to the impact of AI development. Traditional language teaching often focuses on real-time face-to-face interaction and the cultivation of students' listening, speaking, reading and writing skills. However, AI technology, with its extensive knowledge reserve, feedback capability, strong interactive ability and emotional support, can already replace most of the functions of foreign language teachers. This has brought an unprecedented impact on the traditional role of foreign language teachers, threatening their professional identity. Based on that, this paper will review the relevant literature on AI in foreign language teaching and the identity of foreign language teachers, and explore the paths of AI empowering foreign language teaching, as well as the

identity crises that foreign language teachers will encounter and find out the solutions.

2. Opportunities and challenges for foreign language teachers in the context of AI

Based on the existing literature, this paper defines AI in education as: all artificial intelligence technology applications that can simulate human abilities and intelligent behaviors and are used to support and promote the implementation of educational activities, such as automatic evaluation systems, intelligent tutoring systems, chatbots, etc.; The following text will analyze the opportunities and challenges faced by foreign language teachers in their professional development by introducing various AI technologies applicable to foreign language teaching

2.1 Automatic assessment systems

Automatic assessment systems are mainly applied in the fields of foreign language writing and speaking evaluation. They can automatically assess input information and provide revision suggestions to make them suitable for standardized tests and classroom tasks. Common systems include automatic writing assessment systems such as IntelliMetric, E-rater, Pigaiwang, and iWrite, as well as automatic speaking assessment systems like Duolingo and Liulishuo. The aforementioned automatic assessment systems are helpful for enhancing students' learning engagement, positive emotions, and self-efficacy. They assist teachers in assessing assignments by providing scores and personalized feedback for reference, reducing the time teachers spend on grading and improving grading efficiency, thus serving as good assistants for teachers in assessment.^[2] However, the role of teachers as assessors has been weakened, and their central position as authoritative evaluators has gradually been marginalized.

2.2 Neural machine translation

Neural machine translation, which applies neural network and deep learning technologies, can independently learn language translation by using massive amounts of data to ensure the speed and accuracy of translation.^[3] Common examples include DeepL, Google Translate, and Bing Microsoft Translator. Machine translation can promote the development of learners' productive and receptive language skills, but its learning-promoting effects are constrained by various factors such as text genre, learners' language proficiency, and their level of critical thinking.^[4] Machine translation can promote the development of students' language skills, but its learning-promoting effects are subject to many constraints. When using machine translation to assist teaching, teachers face multiple challenges, such as how to accurately determine the applicable scope of machine translation based on students' foreign language proficiency and different text types, and how to guide students to pay attention to extra-linguistic knowledge.

2.3 The intelligent tutoring system

The intelligent tutoring system is a personalized tutoring system that can provide students with learning materials, assign tasks and provide immediate feedback. While motivating students, it dynamically adjusts to optimize their learning experience based on the learner model. The more common systems in the EFL field include Your Verbal Zone and Robo-Sensei, etc..^[5] This system can provide teachers with data on students' academic performance, emotions and engagement, assist teachers in adjusting teaching strategies and providing personalized support, and create space for teachers to care for students and cultivate students' thinking abilities.^[6] In this system-assisted teaching, teachers have transformed from the dominant force in imparting knowledge to the guides in students' learning process. This means that teachers should pay more attention to stimulating students' intrinsic learning motivation, cultivating their autonomous learning ability, and providing guidance and support during students' learning process. Therefore, teachers should not only have a solid theoretical foundation in education but also be proficient in the use of the system.

2.4 Intelligent virtual environments

The use of intelligent virtual environments is due to the fact that, under the constraints of geographical conditions, most foreign language teaching is carried out in the learners' native language environment. Foreign language communication dialogues are confined to the classroom, and the interactive communication partners of learners are mostly peers or teachers, lacking the communication

partners and real language environment in real foreign language situations. Intelligent virtual environments can create a real language environment for learners. In this environment, virtual characters interact with learners, thereby helping them break through the limitations of time and space and facilitating their immersion in a real language environment for learning. This can not only generally reduce learners' oral anxiety, improve their task engagement, the quality of communication and the efficiency of cooperative learning, but also enhance learners' creativity, interaction ability, collaboration ability, problem-solving ability and the ability to actively construct knowledge.^[7] The application of intelligent virtual environments marks a change in the traditional teaching mode and poses new challenges and requirements for teachers. While students' conversations with virtual characters in a virtual environment enrich their learning experience, they also reduce the opportunities for direct emotional communication between teachers and students. In addition, to maximize the learning promotion effect, the virtual environment needs to be closely integrated with the teaching content. This requires teachers not only to master this technology but also to enhance their professional qualities and design attractive learning scenarios and tasks.

2.5 AI chatbots

AI chatbots are one of the elements of intelligent virtual environments, but due to the latter's high requirements for hardware and environment, AI chatbots are often applied independently in the field of education. Relying on natural language processing, AI chatbots simulate human conversations in the form of text or voice through machine learning or deep learning.^[8] ChatGPT, Wenxin Yiyan, Doubao, and SparkDesk all belong to the category of general chat robots. Chatbots have the characteristics of convenient operation, instant interaction, and topic personalization at the technical level; they can achieve role diversification at the teaching level; and they demonstrate the advantages of interpersonal interaction, openness, and learning continuity at the social level.^[9]

The effectiveness of AI chatbots in facilitating both learning and teaching has been verified. This technology can not only provide teachers with teaching inspiration and materials, improving their lesson preparation efficiency, but also help them accomplish repetitive tasks in teaching.^[10] However, students' positive experiences may also lower their expectations and recognition of their own school teachers, threatening foreign language teachers' traditional roles as knowledge experts, knowledge transmitters, and assessors.^[11]

In addition to the role challenges, teachers also need to deal with new problems caused by the use of chat robots. Firstly, the feedback provided by ChatGPT may have issues such as inconsistency, redundancy, irrelevance, and unreliability. For instance, ChatGPT sometimes fails to detect errors in students' writing, and may even suggest revisions for accurate sentences. Secondly, there may be security issues with the content generated by AI. Influenced by the ideology of the developers or the database, AI may convey biased content, which could become learning materials for students and then again serve as large-scale training data, creating a recursive risk.^[12] Moreover, the use of AI by students may also lead to more academic misconduct such as plagiarism and cheating in exams.

3. The Identity Crisis of Foreign Language Teachers in the AI Era

Teachers in the AI era are confronted with a series of identity conflicts triggered by technological development, such as how to balance "accepting new technologies and adhering to traditional teaching concepts" at the teaching level, and how to coordinate "technology relying on humanistic care" at the social and emotional level.^[13]

3.1 The identity crisis of foreign language teachers at the teaching level empowered by technology

At the level of technology-empowered teaching, teachers need to apply AI efficiently in teaching practice on the basis of having professional subject teaching abilities. If teachers have not yet learned how to integrate AI technology into foreign language teaching, it will not only affect the effectiveness of AI-assisted teaching, but also result that AI technologies threaten teachers' status and trigger their identity crisis.

In subject teaching, AI, with its vast knowledge reserves, rapid response capabilities, accurate application of knowledge, as well as its significant advantages in providing efficient feedback, simulating dialogue scenarios, and reducing students' oral anxiety, is gradually weakening, replacing or even surpassing the role of teachers in subject teaching as knowledge transmitters, assessors and

learning facilitators; Teachers are likely to be gradually marginalized and put at a disadvantage situation in terms of career development. When teachers' professional abilities in subject teaching are insufficient, the situation where they are weakened, replaced and surpassed by AI may become more prominent. In AI-assisted teaching, if teachers lack the knowledge and ability to apply AI in teaching, their teaching practice will be affected. On the one hand, although AI can provide convenience for teachers in all teaching links, if teachers lack the corresponding AI knowledge, it will be difficult for them to effectively integrate AI into teaching and take advantage of its teaching strengths, which in turn affects teachers' professional happiness. On the contrary, if teachers possess rich technical knowledge, they are more likely to apply technical tools to teaching and are more conducive to enhancing their sense of teaching efficacy. On the other hand, teachers' lack of understanding of AI may lead them to accept or misunderstand all the information generated by AI, which in turn affects their guidance of students. Although AI is developing rapidly at present, it still has limitations, such as misjudging oral evaluations and generating incorrect information, etc..^[14] Therefore, as professionals, teachers need to possess both professional subject teaching skills and the ability to apply AI. They should use critical thinking and professional knowledge to understand, interpret, distinguish and evaluate the results generated by AI, identify inaccurate content, and provide correct guidance to students.

In conclusion, teachers need to simultaneously enhance their capabilities in both AI technology and subject teaching, and achieve a deep integration of the two, in order to effectively deal with identity crises and maximize the benefits of AI-assisted teaching.

3.2 The identity crisis of foreign language teachers at the social and emotional level

On the social and emotional level, teachers should pay attention to the moral aspect of education, care for and love students, fulfill the responsibilities of caregivers and moral guides, and provide necessary assistance. However, the wide application of AI technology may weaken the direct communication between teachers and students, affect the connection and deepening of their emotions, and even threaten the identity of teachers as emotional communicators.

Firstly, the interaction between teachers and students has gradually evolved into a triangular interaction of "teacher - student - AI", which accordingly reduces the opportunities for direct communication and interaction between teachers and students. If teachers fail to realize the core value of interaction and cooperation between teachers and students in education and do not actively seek a balance between technological advantages and humanistic care, it may affect the establishment of emotional bonds and good relationships between teachers and students. Secondly, the identity crisis of teachers in technology-empowered teaching may trigger an identity crisis at the social and emotional level. If teachers find it difficult to provide technical guidance and support to students, or if their teaching content is not as detailed and precise as that generated by AI, their teaching authority may be weakened, which could trigger a crisis of trust among students and further affect the harmonious relationship and emotional communication and interaction between teachers and students. Finally, the powerful emotional support function of AI may exacerbate the identity crisis of teachers at the social and emotional level. Negative emotions in Chinese students' foreign language learning affect academic performance and psychology, but it is difficult for teachers to pay attention to the psychological state of each student, thus making it difficult for them to fulfill the role of confidant and emotional supporter.^[15]

4. Conclusions and Implications

The teaching scenarios and professional roles that foreign language teachers are familiar with have been disrupted. They are now faced with the dual challenges of threat to their role status and high requirements for professional qualities, and will experience an identity crisis. Therefore, teachers, schools and government authorities should make corresponding preparations, explore the professional development paths for foreign language teachers, and assist teachers in coping with identity crises to achieve role reshaping, and to promote the integration of AI and foreign language teaching. Specifically, efforts can be made to achieve the following three points:

First of all, foreign language teachers should actively adapt to and transform their roles, proactively become collaborators of AI, and consciously enhance their intelligent literacy. In human-machine collaboration, teachers should maintain a dominant position, set clear, accurate and detailed instructions and carefully evaluate their outputs to ensure the effectiveness and appropriateness of educational resources. Teachers should also fulfill their roles as emotional communicators and value transmitters, pay attention to students' psychology, provide emotional support, and adhere to the mission of fostering

virtue and nurturing talent, guiding students to establish correct values, and helping students identify potential biases in AI information.

Secondly, schools should establish a technical support system to empower teachers' professional growth. To ensure the effectiveness of AI-promoted teaching and facilitate teachers' growth, schools should provide sufficient technical support and guarantees, such as customizing foreign language teaching AI platforms, conducting technical training, and equipping technical support teams, etc.

Furthermore, the education department should understand the actual teaching needs of front-line teachers, increase financial investment, build a fully functional and easy-to-operate AI system dedicated to foreign language teaching, and support projects such as teacher training. Furthermore, due to the prominent issues of the intelligence gap and social injustice, the government also needs to pay attention to the problem of unfair distribution of educational resources, and support resource-weak regions.^[16] Finally, the government should enhance supervision to prevent potential risks of AI and ensure that its application is both efficient and secure.

Acknowledgements

Higher education research project of Heilongjiang Higher Education Association, "A study on the professional development of foreign language teachers in universities based on the background of AI", Project No.: 23GJYBI005

References

- [1] Akgun, S. & C. Greenhow. 2022. *Artificial intelligence in education: Addressing ethical challenges in K-12 settings* [J]. *AI and Ethics* 2(3): 431-440.
- [2] Celik, I. 2023. *Towards Intelligent-TPACK: An empirical study on teachers' professional knowledge to ethically integrate artificial intelligence (AI)-based tools into education* [J]. *Computers in Human Behavior* 1(3): 126-134.
- [3] Chang, H., J. Park & J. Suh. 2024. *Virtual reality as a pedagogical tool: An experimental study of English learner in lower elementary grades* [J]. *Education and Information Technologies* 29 (4): 48-51.
- [4] Huang, W., K. F. Hew & L. K. Fryer. 2022. *Chatbots for language learning—Are they really useful? A systematic review of chatbot-supported language learning* [J]. *Journal of Computer Assisted Learning* 6 (3), 76-98.
- [5] Jeon, J. & S. Lee. 2023. *Large language models in education: A focus on the complementary relationship between human teachers and ChatGPT* [J]. *Education and Information Technologies* 2 (8):73-92.
- [6] Jiang, R. 2022. *How does artificial intelligence empower EFL teaching and learning nowadays? A review on artificial intelligence in the EFL context* [J]. *Frontiers in Psychology* 1 (3): 34-36.
- [7] Klimova, B. M. Pikhart, A. D. Benites, et al. 2023. *Neural machine translation in foreign language teaching and learning: A systematic review* [J]. *Education and Information Technologies* 28 (1): 164-197.
- [8] Lin, C. C., A. Y. Q. Huang & O. H. T. Lu. 2023. *Artificial intelligence in intelligent tutoring systems toward sustainable education: A systematic review* [J]. *Smart Learning Environments* 10: 22-47.
- [9] Mohamed, Y. A., A. Khanan, M. Bashir, et al. 2024. *The Impact of Artificial Intelligence on Language Translation: A Review* [J]. *IEEE Access* 12: 53-79.
- [10] Plau, A., C. Polio & Y. Xu. 2023. *Exploring the potential of ChatGPT in assessing L2 writing accuracy for research purposes* [J]. *Research Methods in Applied Linguistics* 2 (3): 80-83.
- [11] Russell Group. 2023. *New principles on use of AI in education* [EB/OL]. [2024-06-20]. <https://russellgroup.ac.uk/news/new-principles-on-use-of-ai-in-education/>.
- [12] Zhai, C. & S. Wibowo. 2023. *A systematic review on artificial intelligence dialogue systems for enhancing English as foreign language students' interactional competence in the university* [J]. *Computers and Education: Artificial Intelligence* 4: 101-106.
- [13] Zheng, S., J. Zhang, J. Wang, et al. 2024. *English language learning anxiety and academic burnout in Chinese freshmen: A chain mediating approach* [J]. *Frontiers in Psychology* 15: 134-138.
- [14] Xin, A., X. Shen & Y. Zhou. 2023. *The Integrated Development of Artificial Intelligence and Teaching from the Perspective of English Teachers: Opportunities, Challenges and Improvement Paths*. [J]. *Modern Educational Technologies* 33: 71-79.
- [15] Si., C., ZB., L. 2024. *The dilemmas, limits and approaches of applying artificial intelligence to*

teaching. [J]. E-educational Research 45 (4): 88-95.

[16] Jie., G. & S. D., Peng. 2023. *A Comparative Study of Smart Teaching Tools in the Context of Educational Artificial Intelligence [J]. Shanghai Research on Education 3: 61-67.*